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<The Amendment under PCT Article 34 made on December 15, 2005>

Written Amendment

(Amendment made based on Article 11 of Law Concerning the International Application of the Patent Cooperation Treaty and Related Matters, equivalent to Article 34 (2) (b) of Patent Cooperation Treaty)

To Commissioner of the Patent Office  
(To Examiner Sou KITAGAWA)

1. Indication of the International Application

PCT/JP2005/002794

2. Applicant

Name: SHARP KABUSHIKI KAISHA

Address: 22-22, Nagaike-cho, Abeno-ku, Osaka-shi,  
Osaka 545-8522 JAPAN

Country of nationality: JAPAN

Country of residence: JAPAN

3. Agent

Name: 11233 Patent Attorney FUJIMOTO Eisuke

Address: c/o Fujimoto Patent & Law Office  
Room 317, Sanno Grand Building 3F.,  
14-2, Nagata-cho 2-chome, Chiyoda-ku, Tokyo  
100-0014 JAPAN

4. Object to be amended

- (1) Claims
- (2) Drawings

5. Content of the amendment (cf. Appended paper)

(1) Claim 1, lines 4 to 15, change ", the electrode axis ... is provided" to --and emitting the reflected light to the front, the electrode axis of the main electrodes being arranged to cross a light axis of the outgoing light, wherein the reflector is constructed so that a first reflector portion formed with a spherical surface centered at a light generation point of the arc tube is formed on a rear side from the arc tube as a boundary, a second reflector portion formed with an ellipsoid is formed in front of the boundary of the arc tube, and the outgoing light emitted from the arc tube is reflected by the first and second reflector portions so that the reflected light reaches a predetermined condensed spot; and a lens that condenses the outgoing light emitted from the arc tube to other than the second reflector portion and brings the condensed outgoing light to the predetermined condensed spot and consists of a glass material that will not deteriorate under a high-temperature atmosphere in a vicinity of the arc tube is provided inside the second reflector portion--.

(2) Claim 2, change to -- The light source device according to Claim 1, wherein the lens is positioned so that a principal point thereof is located on the optical axis while the periphery of the lens is located at a position at which, of the outgoing light beams emitted forwards from the arc tube, the light beam illuminating a vicinity of an opening of the second reflector portion intersects the light beam that is reflected at an innermost position of the second reflector and brought to the condensed spot --.

(3) Cancel Claim 3.

(4) Cancel Claim 4.

(5) Claim 5, lines 1-2, change "any one of Claims 1 to 4" to --Claim 1 or 2--.

(6) Claim 6, lines 1-2, change "any one of Claims 1 to 4" to -- Claim 1 or 2--.

(7) Claim 8, lines 1-2, change "any one of Claims 1 to 7" to --any one of Claims 1, 2, 5 to 7--.

(8) Claim 9, change to -- The light source device according to any one of Claims 1, 2, 5 to 8, wherein the reflector has

a separable structure such that it can be separated at a boundary containing the electrode axis of the arc tube into a first reflector part that forms the first reflector portion and a second reflector part that forms the second reflector portion --.

(9) Claim 10, lines 1-2, change "any one of Claims 1 to 9" to -- any one of Claims 1, 2, 5 to 9 --.

(10) Claim 11, change to -- The light source device according to Claim 8, wherein the reflector is grounded and an annular auxiliary electrode that encloses the proximal end side of the sealed portion of the arc tube is provided and the auxiliary electrode is electrically connected to the reflector --.

(11) Add new claim 12 reciting -- A video display apparatus in which the light source device according to any one of Claims 1, 2, 5 to 11 is used --.

(12) FIG. 4, change to attached FIG. 4.

6. List of the appended documents:

- (1) Amended Claims: Pages 50-52, 52/1
- (2) Amended Drawings: FIG. 4

One copy for each

## CLAIMS

1. (Amended) A light source device comprising: an arc tube having a pair of main electrodes arranged on one electrode axis; and a reflector for reflecting an outgoing light emitted from the arc tube and emitting the reflected light to the front, the electrode axis of the main electrodes being arranged to cross a light axis of the outgoing light, wherein the reflector is constructed so that a first reflector portion formed with a spherical surface centered at a light generation point of the arc tube is formed on a rear side from the arc tube as a boundary, a second reflector portion formed with an ellipsoid is formed in front of the boundary of the arc tube, and the outgoing light emitted from the arc tube is reflected by the first and second reflector portions so that the reflected light reaches a predetermined condensed spot; and

a lens that condenses the outgoing light emitted from the arc tube to other than the second reflector portion and brings the condensed outgoing light to the predetermined condensed spot and consists of a glass material that will not deteriorate under a high-temperature atmosphere in a vicinity of the arc tube is provided inside the second reflector portion.

AMENDED SHEETS

2. (Amended) The light source device according to Claim 1, wherein the lens is positioned so that a principal point thereof is located on the optical axis while the periphery of the lens is located at a position at which, of the outgoing light beams emitted forwards from the arc tube, the light beam illuminating a vicinity of an opening of the second reflector portion intersects the light beam that is reflected at an innermost position of the second reflector and brought to the condensed spot.

3. (Cancelled)

4. (Cancelled)

5. (Amended) The light source device according to Claim 1 or 2, further comprising a luminance equalization means for equalizing a surface luminance of the light beams by shaping the outgoing light emitted from the arc tube into a designated pattern and by mixing by multiple reflection.

6. (Amended) The light source device according to Claim 1 or 2, further comprising a luminance equalization means for equalizing a surface luminance of the light beams by shaping the outgoing light emitted from a light source into a designated pattern and by mixing by multiple reflection.

**AMENDED SHEETS**

7. The light source device according to Claim 5 or 6, wherein the reflector and the luminance equalization means are integrally formed.

5 8. (Amended) The light source device according to any one of Claims 1, 2, 5 to 7, wherein sealed portions that seal the main electrodes are formed on both sides of the light generation point of the arc tube, and heat radiation members are arranged between the sealed portions and the reflector.

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9. (Amended) The light source device according to any one of Claims 1, 2, 5 to 8, wherein the reflector has a separable structure such that it can be separated at a boundary containing the electrode axis of the arc tube into a first reflector part that forms the first reflector portion and a second reflector part that forms the second reflector portion.

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10. (Amended) The light source device according to any one of Claims 1, 2, 5 to 9, wherein the reflector has a separable structure such that it can be separated along a plane parallel to the optical axis.

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11. (Amended) The light source device according to Claim 8, wherein the reflector is grounded and an annular auxiliary electrode that encloses the proximal end side of the sealed

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portion of the arc tube is provided and the auxiliary electrode is electrically connected to the reflector.

12. (Added) A video display apparatus in which the light  
5 source device according to any one of Claims 1, 2, 5 to 11  
is used.

**AMENDED SHEETS**



**FIG. 4**

